Deputy Under Secretary of Defense
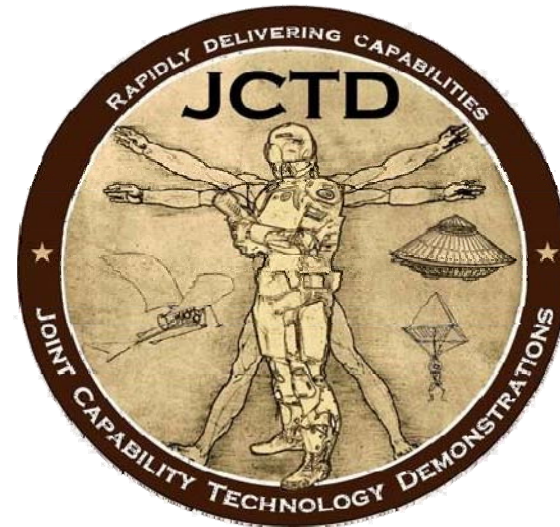
Advanced Systems & Concepts (AS&C)

- JCTDs -
A 'Model' DoD Program
For Rapid S&T Transition
To Support the Joint Warfighter

OSD/AT&L/DDR&E/AS&C

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June 8, 2009

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JCTD Program Mandates

- **DODD 5000, GAO Report (GAO-06-883), CJCSI 3170.01, CJSI 3470, DODD 5134.1**

DODD 5134.1, April 21, 2000 -Establish policies and programs that improve, streamline, and strengthen DoD Component technology access and development programs, encourage open market   competition and technology-driven prototype efforts that offer increased military capabilities at lower total ownership costs and faster fielding times, and exploit the cost-reduction potential of accessing innovative or commercially developed technologies.

"In 1995, the Department of Defense initiated the Advanced Concept Technology Demonstration (ACTD) to get new technologies and innovative concepts into the hands of the warfighter as quickly as possible. After ten successful years of ACTDs and recent rapid capability application to the joint warfighter in the new era of the Global War on Terrorism, we initiated the Joint Capability Technology Demonstration (JCTD) Program to further refine the process of rapidly bringing emerging technologies to the joint warfighter. This rapid capability application approach is tied directly to the Combatant Commander's most critical needs, and is meant to provide a faster, more integrated joint and coalition response to meet the emerging asymmetrical threats facing our nation. The JCTD program supports tomorrow's forces and often delivers early products to today's forces. JCTD projects develop and demonstrate capabilities on a 2-4 year or shorter timeline, giving the Defense Department a process which is more agile than formal acquisition programs…"

Director, USD AT&L/ DDR&E Testimony ,HASC 2007

Joint Capability Technology Demonstrations (JCTDs)

JCTD Program Mission (Primary Customer: US <u>Combatant Commands</u>)

- ➤ <u>**Provide capability solutions through** rapid prototyping</u> to *solve joint, coalition, and inter-agency urgent shortfalls and gaps with technologies and innovational concepts*
- ➤ **Transition enduring capabilities through strong Service & Agency partnerships**

Objectives

- ➤ **To rapidly demonstrate innovational concepts & technologies to address Combatant Commanders' IPLs, and, Most Pressing Military Needs (1 to 3 Years)**
- ➤ **Delivering a sustainable capability to the warfighter through strong partnerships**
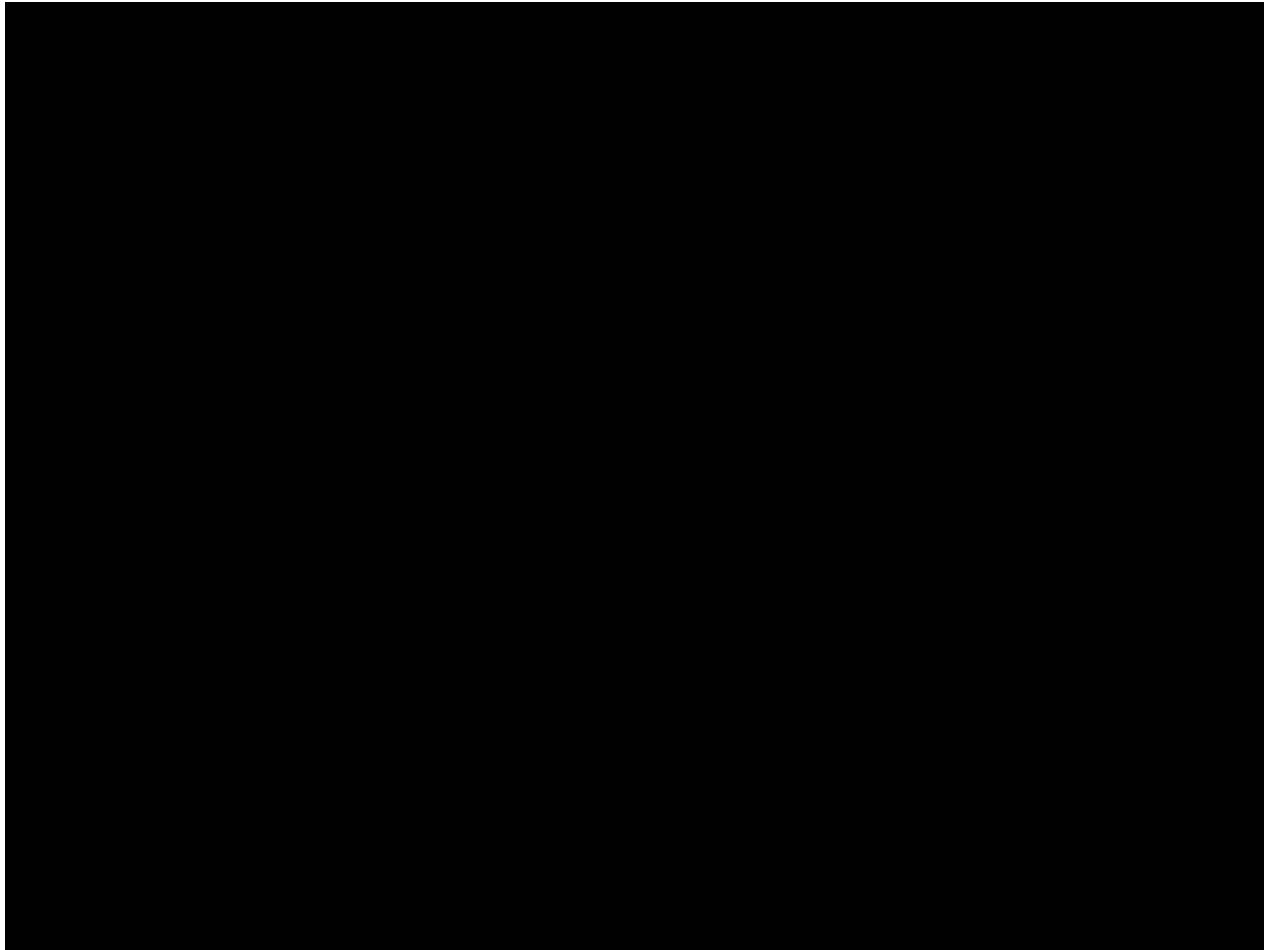
Metrics

- ➤ **JCTD validation via Joint Staff process & independent Military Utility Assessment (MUA)**
- ➤ **System Engineered Process (Lean Six Sigma/CPI)**
- ➤ **Transition to Enduring Capabilities (> 70%)**

- Global Observer –
Liquid Hydrogen Powered UAV

- Focused Lethality Munition -
Low Collateral Damage Weapon

Net Zero Plus

Commander's Perspective

JCTD Program Relationships

- Resources
- Transition Focused
- Research & Development

SERVICES

Innovative Capabilities 20%

COCOMs

- Requirements
- Needs Focused
- Science & Technology

JCTD PROGRAM

Traditional Capabilities 60%

Revolutionary Capabilities 20%

- Policy
- Resources

OSD

- Processes
- Oversight
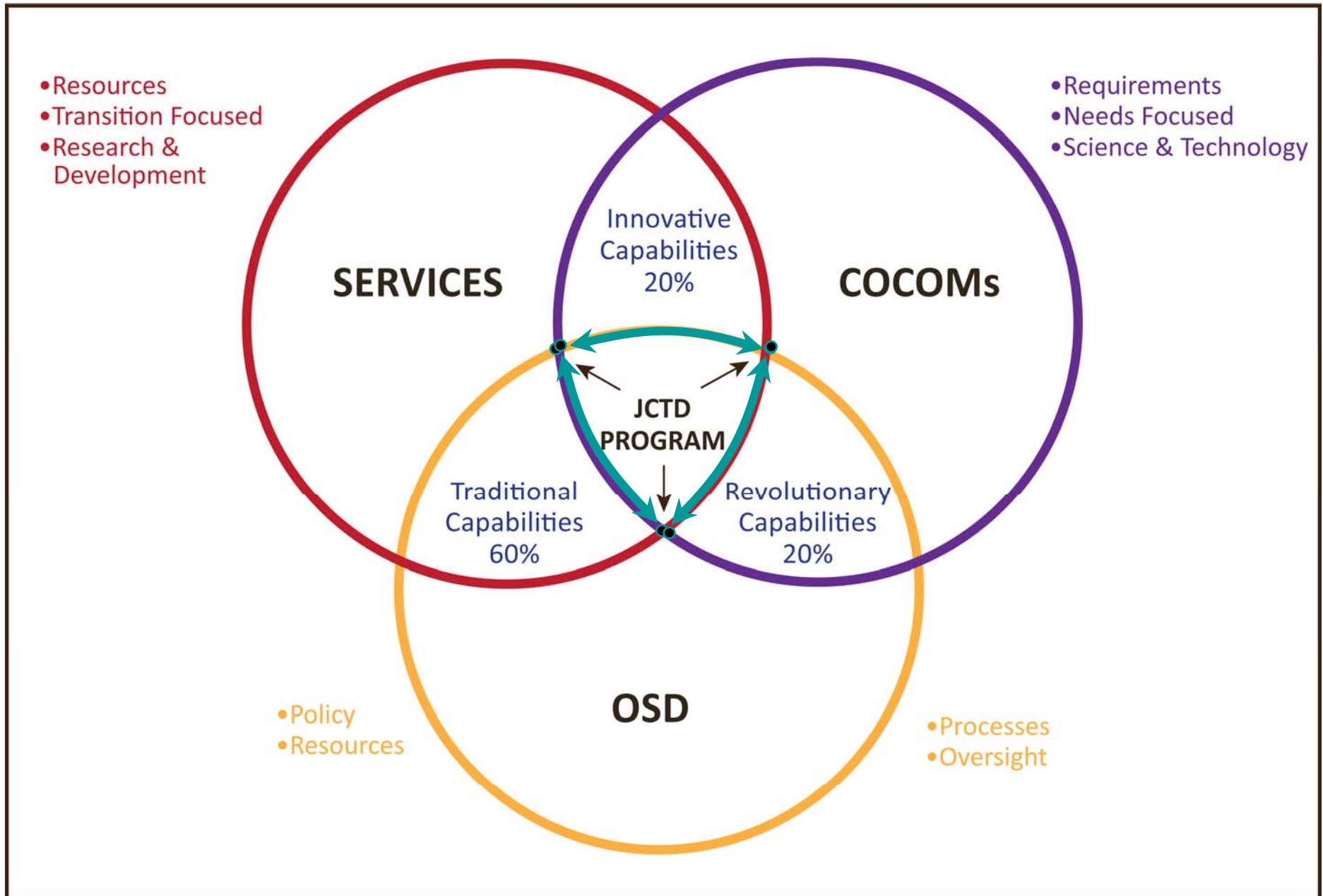
JCTD Metrics

JCTD Model	Tech Readiness Level	Transition Commitment Level	Comments
Traditional *e.g. Comprehensive Maritime Awareness (CMA)* **Incremental Improvement**	5-6	Level A	JROC Approval, Service/Agency and Transition Commitment 1-3 Years
Innovative *e.g. Weapon Data Link Network (WDLN)* **Leap Ahead Capability**	5-6	Level B	JROC Approval, Transition Commitment 1-2 Years
Revolutionary *e.g. Global Observer UAS (GO)* **Game Changer**	4-6	Level C	JROC Approval or, as minimum, Warfighting Need Identified; Early Transition Planning 1-3 years

FY06 – FY08: 70%, 20%, 10%

FY10: 60%, 20%, 20%

Legend: Traditional, Innovative, Revolutionary
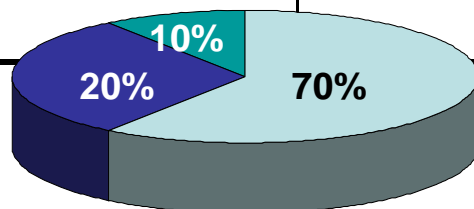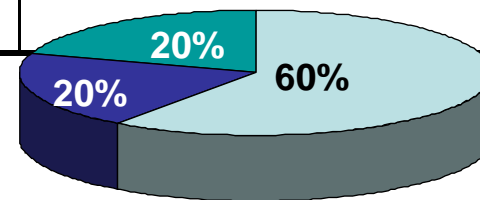
Joint Capability Technology Demonstrations
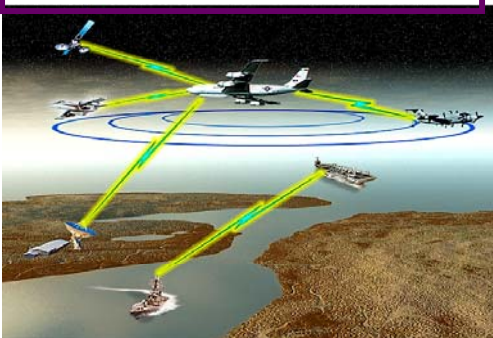## - Recent Program Deliverables -

New DAE Pilot

Language And Speech Exploitation Resources (LASER) – FY06

Bridging the foreign language gap

Weapons Data Link Network (WDLN) – FY06

Retargeting against time-sensitive targets

Transition Recap - FY 2006
- **26 ACTDs Finished**
- **Project Transitions: 19**
- **Programs of Record: 17**
- **Employed in OIF/OEF: 10**

Transitions Underway - FY 2007
- **23 ACTDs Finished**
- **Project Transitions: 16**
  - **Programs of Record: 13**
  - **Ops Residual Sustainment: 3**
  - **Employed in OIF/OEF: 5**

Transitions Projections– FY 2008
- **26 ACTDs and JCTDs finished**
- **Project Transitions: 24**
- **Programs of Record: 19**
- **Ops Residual Sustainment: 5**
- **Employed in OIF/OEF: 8**

Agile Transportation-21st Century (AT-21) – FY07

Automates the supply chain via commercial technologies

Joint Precision Airdrop System (JPADS) – FY07

Precision combat resupply

Achieving the Goal of >70% Transition

Advanced Systems &Concepts
FY 2009 Appropriated Resources
FY 2010 PBR (Feb 2009)

DPA
$100.6,
23%

JCTD
$208.2
47%

FCT
$34.9
8%

DAC
$28.6
6%

MANTECH
$18.4
4%

TTI
$26.8
6%

Tech Tran
$5.8
1%

DAE
$9.9
2%

JCTD Tran
$13.6
3%
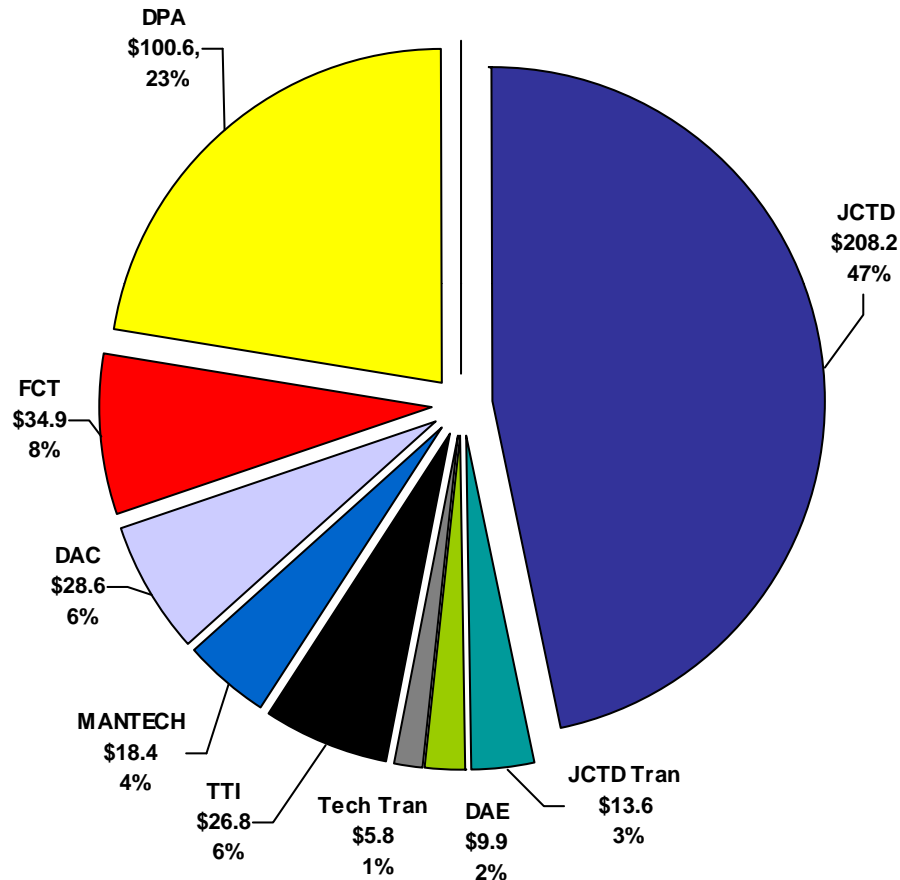
Total Current Estimate:
$445.5M
81% ($259.2M) supports
S&T Activities

■ JCTD (BA-3)	■ JCTD Trans (BA-4)	■ DAE Pilot (BA-5/P/O&M)
■ Tech Transfer (BA-3)	■ TTI (BA-3)	■ Manufacturing Tech (BA-3)
■ DAC (BA 5)	■ FCT (BA 6)	■ DPA Title III (P)

8
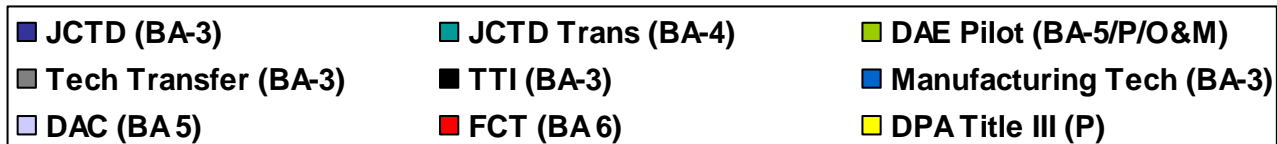
AC/JCTD FY08 COCOM Project Funding

(Where does AS&C send its AC/JCTD funding?)

Pie chart: Where does AS&C send its AC/JCTD funding?

- TRANSCOM 3%
- CENTCOM 19%
- EUCOM 7%
- JFCOM 6%
- NORTHCOM 12%
- PACOM 13%
- SOCOM 19%
- SOUTHCOM 6%
- STRATCOM 15%
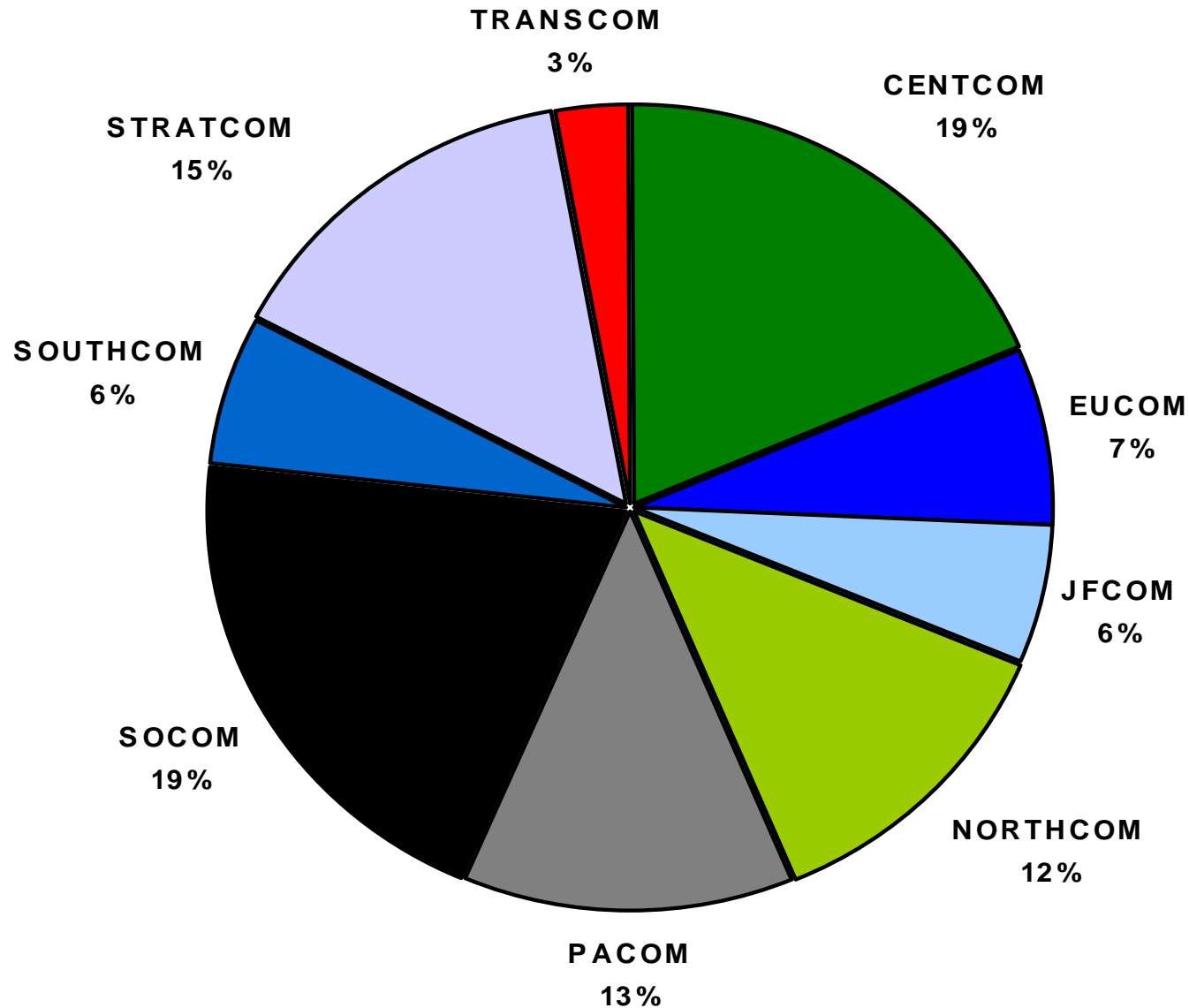
ACTD/JCTD EUCOM PROGRAM
HISTORICAL PROJECT FUNDING

Over $871 million towards EUCOM Capability Gaps

Does not include FY10 candidates not yet selected.
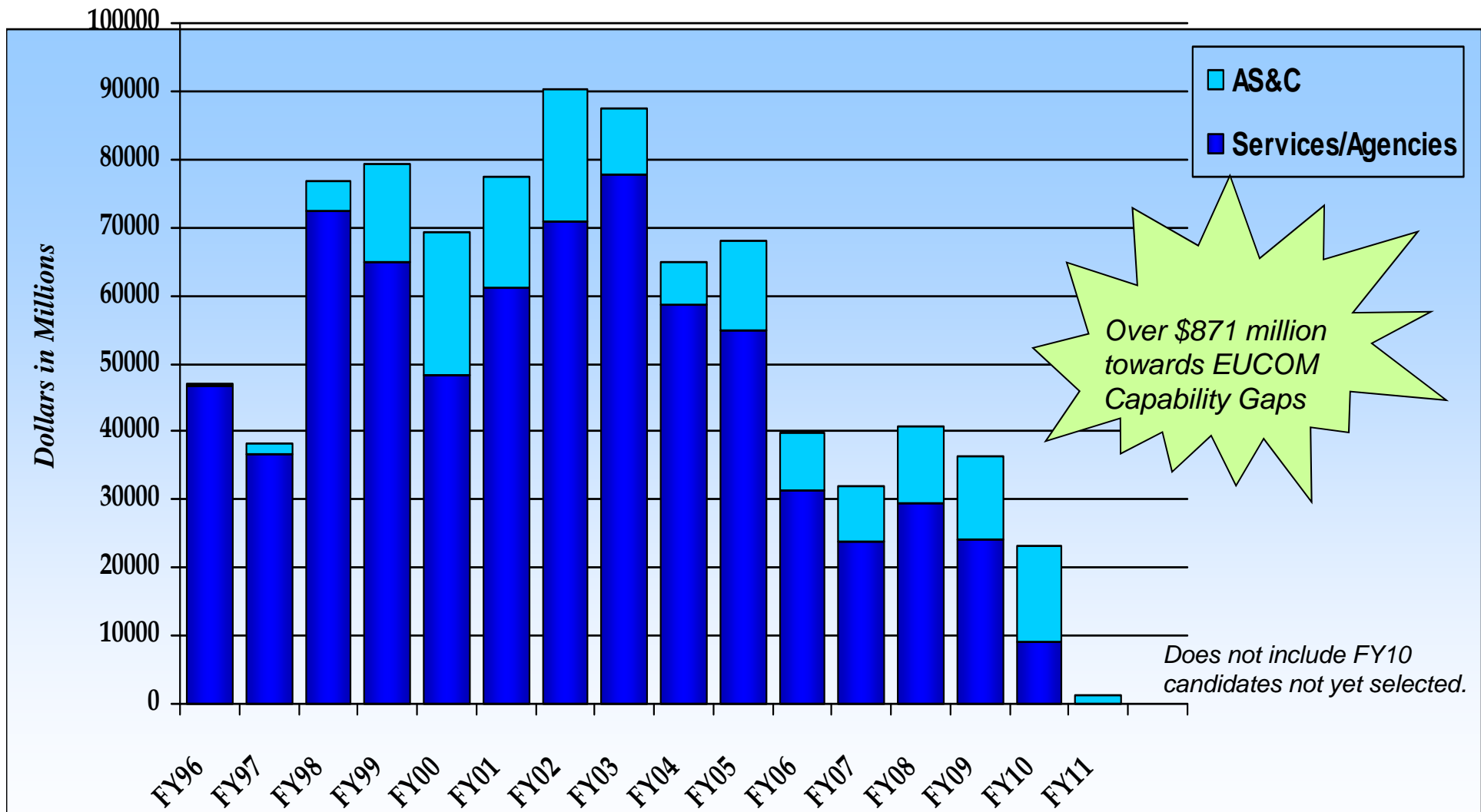
Total AS&C ACTD/JCTD funding to EUCOM projects since inception of $162 million has leveraged over $710 million in partner funding

EUCOM/AFRICOM Partnership

OSD/Advanced Systems & Concepts

20 AC/JCTD Since 1995

Includes:
- CPI & 2
- CB2
- ATOS
- RMAC
- CMA

FY08 Starts
- JFPASS
- TISC

FY09 Starts
- CSE
- Daily Watch

Note: Includes AC/JCTDs that EUCOM was User Sponsor or Co-Sponsor

FY09 New Starts (Update)

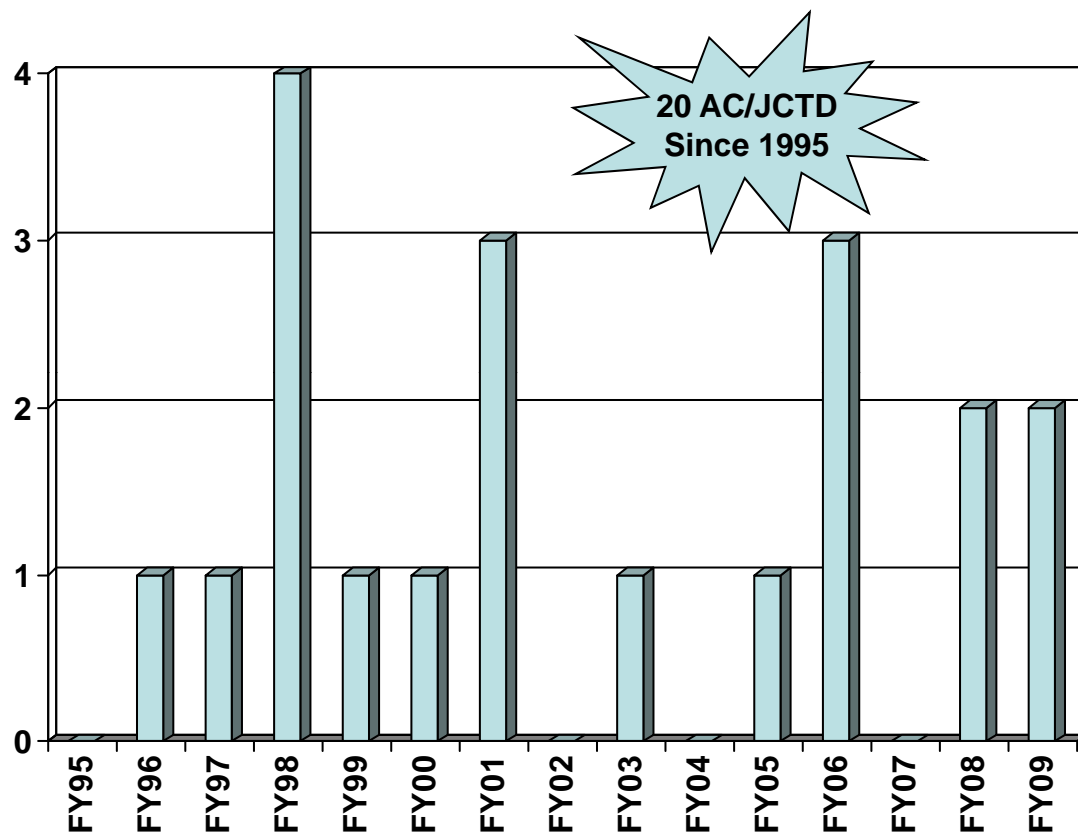## FY09 Immediate Starts

- **Common Ground**
- **Cooperative Security Engagement (CSE)**
- **Daily Watch**
- **Joint Medical Distance Support and Evacuation (JMDSE)**
- **Joint recovery and Distribution System (JRADS)**
- **Mission Assurance Decision Support Systems (MADSS)**
- **Precision Acquisition Weaponized System (PAWS)**

~~STARTED~~

FY09 Potential Rolling Starts

STARTED

- **Joint Multi-Effects Warhead System (JMEWS)**
- **Counter-electronic High Power Microwave Advanced Missile Project (CHAMP)**   Ready to Start
- **Riverine and Intercoastal Operations (RIO)**   Ready to Start
- **One Box - One Wire (OB1)**
- **Distributed Tactical Communications Systems (DTCS)**

FY10 JCTD Process

JCTD

5-7 Possible Starts

FY10 Proposal Finalization

Candidate Review

Service/Partnership Meetings

Needs Validation JFCAs

JCB

JROC

Priority and Ranking

USD/AT&L Approval Selection

Notify Congress

| Jan | Feb | | Mar | Apr | May | Jun | | Jul |

CY2009 →

Service/Partnership Meetings

2-3 Possible Starts

Candidate Review

Manager's Conference

Last Semi-Annual Candidate Review Opportunity

Annual Call Memo

CY2010 ←

USD/AT&L Approval Notify Congress

Selection

JROC

JCB

Needs Validation JFCAs

| Jan | | Dec | | Nov | | Oct | | Sep | | Aug |

Urgent Needs can be addressed at anytime

Current FY10 Candidates

- **Dark Fusion – Maritime Awareness**
- **Fixed Wing Advanced Precision Kill Weapon System (FW APKWS)**
- **High Accuracy Network Determination System (HANDS-ION)**
- **Integrated SATCOM-GIG Operations & Management (ISOM)**
- **Joint UAS Precision Targeting (JUPT)**
- **National Tech Nuclear Forensics (NTNF)**
- **Operational 3D (OP3D)**
- **ORION**
- **Prepositioned Expeditionary Assistance Kit (PEAK)**
- **Rapid Reaction Tunnel Detect (R2TD)**
- **Sea Tracker**
- **Tactical Edge Data Solution (TEDS)**

The JCTD Record

- **56 JCTDS and 2 ACTDS are Active**

- **>70 percent of 127 completed transitioned products to Warfighters**

- **Over 45 ACTD/JCTDs deployed to OEF, OIF and other operations**

- **35 percent involve Coalition / Partner nations**

Awards and recognitions:

- **Airbase/Port Biological Detection (ABP Bio Det) ACTD – David Packard Excellence in Acquisition Award (1998)**

- **Link-16 ACTD – Windows World Wide Open Product Award, presented by Bill Gates (1999)**

- **High Altitude Endurance UAV (Global Hawk) ACTD – Robert J. Collier Trophy, National Aeronautic Association (2000)**

- **Coalition Aerial Surveillance and Recon (CAESAR) ACTD – AFMC Int. Armaments Cooperation Team Award (2002)**

- **Thermobaric (TB) ACTD – Special Achievement Award from International Test & Evaluation Association (2004)**

- **Joint Adv. Health & Usage Monitoring Sys (JAHUMS) ACTD – American Helicopter Society's Harry T. Jensen Award (2006)**

- **Man Portable Threat Warning System (MANPACK) ACTD – Tibbetts Award, for innovation Federal SBIR program (2006)**

- **Hunter Standoff Killer Team (HSKT) ACTD – Shepard Group's Integrator of the Year Award (2007)**

- **Stand Off Precision Guided Munition (SOPGM) JCTD – David Packard Excellence in Acquisition Award (2008)**

- **Joint Enabled Theater Access-Sea Ports of Debarkation (JETA– SPOD) JCTD – DLA "Technology Implementation of the Year" (2008)**

- **Stand Off Precision Guided Munition (SOPGM) JCTD – William J. Perry Award (2009)**

JCTD Staff Points of Contact

Director (Acting) Alex Lovett   *Deputy Director (Acting) Chris Vogt*

ADVANCED SYSTEMS AND CONCEPTS

Technology Area Leads
- Command & Control – Bill Reyers
- Force Protection/MDA – Chris Vogt
- Intelligence/Surv./Recon. – Lt Col Dave Lee
- Logistics – COL Ray Langlais
- Networks & Information – Dick Lee
- Medical/CBRNE – Perry Malcolm
- Space – Lt Col Dave Lee
- Special Warfare – Scott Stevens
- Unmanned Systems – Alex Lovett
- Weapons – Scott Stephens

Joint Staff Liasons to Functional Area Leads
- BA – Lt Col Dave Lee
- CC – Bill Reyers
- FA – Scott Stevens
- Joint Logistics – Greg Reid
- Protection – Chris Vogt
- NC – Dick Lee
- Force Support – MK Tribbie
- Building Partnerships – Alex Lovett

COCOM Leads
- AFRICOM – Greg Reid
- CENTCOM – Lt Col Dave Lee
- EUCOM – Greg Reid
- JFCOM – Fritz Schulz
- NORTHCOM – Chris Vogt
- PACOM – MK Tribbie
- SOCOM – Scott Stephens
- SOUTHCOM – CDR Eliot Gunn
- STRATCOM – Dick Lee
- TRANSCOM – COL Ray Langlais
- USFK – Chris Vogt

Service/Coalition/Agency Reps
- Australia – Alex Lovett
- Canada – Fritz Schultz
- Republic of Korea – Chris Vogt
- Singapore – Chris Vogt
- United Kingdom – Alex Lovett
- DIA / CIA – Brian Hibbeln
- DISA – Bill Reyers
- USAF – Lt Col Dave Lee
- USA – COL Ray Langlais
- USN / USMC – CDR Eliot Gunn
- NRO – Lt Col Dave Lee
- NSA – Bill Dolley

As of 6 May 09